

Fire Protection Boards

High Performance | Low Cost | Long Life

Fire Doors
Fire Wall & Partitions
Ceilings & Flooring
Data Centre Protection
Kitchen Duct
Steel Structure
Tunnel Linings
M&E Enclosures
Transformer



Fire Resistant Calcium Silicate Board

High Fire Resistance : Upto 240 Minutes with 9 mm Thickness
 Longer Guarantee Life : More than 15 Years
 High Insulation : Acoustic & Thermal

Applications

- Ceilings, roofs and floors
- Electrical & mechanical services enclosures
- Light Weight 120 to 240 Minutes Fire Doors
- Fire resistant barriers and spandrels
- Fire protection to concrete structures
- Fire protection to tunnel concrete structures
- Industrial walls and external walls
- Partitions and hoardings
- Shaft walls for lift or building services
- Ventilation, smoke outlet and Kitchen extract ducts



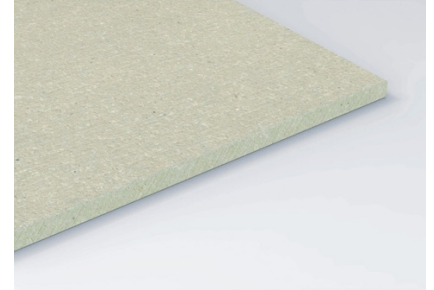
Properties	Standard	Results	
Density	ISO/TR 1896	900 kg/m ³ +/-10%	
Surface alkalinity		pH 7-10	
Flexural strength	ISO/TR 1896	6.0 N/mm ²	transverse
		9.5 N/mm ²	longitudinal
Minimum bending radius		7.2m	- 9mm, longitudinal
		9.8m	- 12mm
Compressive strength - parallel to the plane of board	BS EN 771-2	12.5 N/mm ²	
Stiffness & impact resistance of partition		Heavy duty	
Resistance to door slamming	BS 5234: Part 2	Heavy duty	
Resistance to crowd pressure		3kN/m	
Moisture movement	ambient to saturated	0.05%	
Dimensional changes in length due to relative humidity	BS EN 318	+0.01% @20°C, RH 30%~85%	
		- 0.02% @20°C, RH 85%~30%	
Moisture content		Ex works - 15%	
		In situ - 6%	
Thermal conductivity	EN 12664	0.17 W/mK	
Linear thermal expansion	BS EN ISO 10515-8	-3.06 x 1E-6/°C	
Fire rated systems	AS 1530.4 BS 476:Part20-24 BS EN1363-1 & 2	up to 240 minutes	
	RWS fire in tunnel	Contact Wedge India	
Non-combustible	AS 1530.1 BS 476:Part 4 BS EN ISO 1182	Pass	
Heat of combustion	BS EN ISO 1716	Pass	
Reaction to Fire - Classification	EN 13501-1	Euro Class A1	
Surface spread of flame	BS 476:Part 7	Class 1	
Fire propagation	BS 476:Part 6	Class 0	
Ignitability	BS 476:Part 5	Class P	
Product certification scheme	Singapore	Class 1 & 2	
Acoustic reduction (over range 100-3150 Hz)	AS 1276.1 & 1191 ASTM E90 & E413 EN ISO 10140-3 & 717-1	STC/Rw (dB)	steel framed partition
		26	9mm
		46	99mm
		49	105mm
Green labeled building board	Hong Kong, Singapore	Certified, no heavy metal & no harmful substance	
Organic emission	ASTMD5116-06	Non toxic & No formaldehyde, satisfied the emission tests	
Recyclable product	ISO 14001	Crushed down for recycle use, Products made under ISO 14001 environmental management system	

Fire Resistant Matrix Engineered Board

High Fire Resistance : Upto 240 Minutes with 9 mm Thickness
 Longer Guarantee Life : More than 15 Years
 Good Insulation : Acoustic & Thermal

Applications

- Structural steel protection
- Steel/timber stud partitions, solid/frameless partitions
- Conversion of external to internal walls, external walls
- Self-supporting ceilings, suspended ceilings
- Timber floor protection, upgrading of timber floors
- Cladding to steel ducts, self-supporting ducts
- M&E services enclosure
- Smoke barrier, parapet/spandrel wall
- Access panels and hatches, fire doors
- Tunnel lining, concrete/brick floor and wall upgrading



Properties	Results
Modulus of elasticity, E Longitudinal N/mm ²	4995
(BS EN 310: 1993) Transverse N/mm ²	4389
Flexural strength, Frupture Longitudinal N/mm ²	10
(BS EN 310: 1993) Transverse N/mm ²	6
Tensile strength, Trupture Longitudinal N/mm ²	7.16
(BS 5669: Part 1: 1989) Transverse N/mm ²	4.94
Compressive strength (average, perpendicular on board face) N/mm ²	11.36
(BS 5669: Part 1: 1989)	
Product generic description	Matrix engineered mineral board
Material class (DIN 4102: Part 1: 1998, BS 476: Part 4: 1970 and AS 1530: Part 1: 1994)	Non combustible
Surface spread of flame (BS 476: Part 7: 1997)	Class 1
(AS 1530: Part 3: 1989)	Class 0,0,0,0
Building regulations classification	Class 0
Nominal density (average) kg/m ³	975
Alkalinity (approximate) pH	12
Thermal conductivity (approximate) at 40°C (ASTM C518: 1991) W/m ² K	0.242
Coefficient of expansion m/mk	-6.4 x 10 ⁻⁶
Nominal moisture content	6%
Thickness tolerance of standard boards mm	± 0.5
Length x Width tolerance of standard boards mm	± 5
Surface condition	Front face: smooth Back face: sanded

Thickness (mm)	Standard dimensions (mm x mm)	Number of boards per pallet	Surface per pallet (m ² /pallet)	Weight per m ² of sheet (approximate kg/m ²)	Weight per pallet (approximate kg)
9	2440 x 1220	61	181.5	8.77	1688
12	2440 x 1220	46	136.9	11.7	1698
15	2440 x 1220	36	107.2	14.6	1662
20	2440 x 1220	27	80.4	19.5	1664
25	2440 x 1220	22	65.4	24.3	1681

Fire Door Making Calcium Silicate Board

High Fire Resistance : Upto 120 Minutes with 9 mm Thickness
 Longer Guarantee Life : More than 15 Years
 High Insulation : Acoustic & Thermal

Applications

- Low cost 60 to 120 Minutes Fire Doors
- Fire Resistant Acoustic Door
- Access Panel & Trap Doors
- Lift Doors & Fire Escape Area
- Aesthetic curved ceiling
- Moisture resistance ceiling Backing wall for wet area ceramic tiling
- Casings for building services
- Fire rated backing board for metal claddings
- Fire rated industrial wall linings
- Perforated finishes for acoustic space
- Fire resistant barriers and spandrels
- Fire protection to concrete structures



Specification			
Density	1000 kg/m ³ +/-10%		
Nominal weight	6.6 kg/m ²	-6mm	
	9.9 kg/m ²	-9mm	
	12.6 kg/m ²	-12mm	
	*other thicknesses of board may be produced to special order		
Size	1220 x 2440mm		
	1200 x 2400mm *All boards come with cutting square edges. Recessed edges can be produced upon request.		
Color	Natural off-white		
Finish	Sanded smooth surface on one side & slightly textured reverse		
Manufacturing Tolerances	Length	+/- 5mm	
	Width	+/- 5mm	
	Diagonal	+/- 5mm	
	Thickness	+/- 0.3mm	
		+/- 0.6mm	*greater board thickness
* Standard full sized board & maximum thickness = 25mm			
Thermal Conductivity	≤0.14	W/ (m•k)	
Water Contain	≤10	%	
Moisture Movement	≤0.25	%	
Heat Shrinkage	≤0.5	%	
Bending Strength	Cross	≥10	Mpa
	Parallel	≥8	Mpa
Ratio Of Cross And Parallel Bending Strength	≥58	%	